WE CLAIM:

1. An apparatus for measuring the weight of material being processed or moved by a material moving apparatus driven by an electrical motor, the apparatus comprising a means for measuring the electrical energy consumed by the motor driving the material moving apparatus during operation of the material moving apparatus and a calibration formula for converting the power consumption of the motor to tonnage per hour of raw material being processed by the apparatus. A continual record is kept of all "No-load" and "start-up load" time during the recording process and these figures are totalized along with tonnage for the recording period.

2. An apparatus according to claim 1 wherein the material moving apparatus is a conveyor, apron conveyor or bucket elevator.

3. An apparatus according to claim 2 wherein the apparatus is provided with a temperature sensor to monitor the ambient temperature and apply a temperature calibration factor to adjust the output of the apparatus based upon the ambient temperature.

4. An apparatus according to claim 3 wherein the apparatus is provided with a belt speed sensor to monitor the speed of the belt and adjust the output should stalling or slippage of the belt occur.

5. A method for measuring the weight of material such being processed or moved by a material moving apparatus driven by an electrical motor, the method comprising measuring the electrical energy consumed by the motor

driving the material moving apparatus during operation of the apparatus and utilizing a calibration formula to convert the amount of electrical energy consumed by the motor to tonnage per hour of raw material processed by the material moving apparatus.

6. A method according to claim 5 wherein a continual record is kept of all "No-load" and "start-up load" time during the recording process and these figures are totalized along with tonnage for the recording period.

7. A method according to claim 6 wherein the material moving apparatus is a conveyor, apron conveyor or bucket elevator.

8. A method according to claim 7 wherein the apparatus is provided with a temperature sensor to monitor the ambient temperature and the method involves the further step of applying a temperature calibration factor to adjust the output of the apparatus based upon the ambient temperature.

9. A method according to claim 8 wherein the apparatus is provided with a belt speed sensor to monitor the speed of the belt and the method involves the further step of adjusting the output of the apparatus should stalling or slippage of the belt occur.

10. A method according to claim 9 wherein the apparatus is provided with a digital inclinometer to monitor changes in angle on stacker conveyors to adjust the conversion of kilowatts to tonnage by using a factor from the tilt sensor showing any changes in angle as the conveyor moves up or down.

11. A method according to claim 10 wherein a No-load test provides a new No-Load figure which is compared to the original No-Load figure and any difference is added or subtracted from the original and this difference is applied to the regression formula to filter out mechanical changes that may develop from normal operating conditions of a conveyor, apron conveyor or bucket elevator.